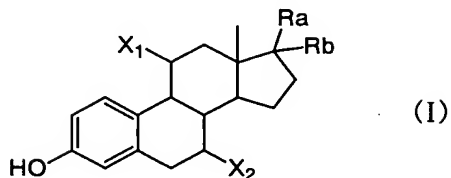
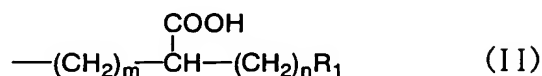


# CLAIMS

1. A compound of formula (I)



- (where X<sub>1</sub> and X<sub>2</sub> represent independently a hydrogen atom or  
5 a group of formula (II))



R<sub>1</sub> represents a linear or branched halogenoalkyl group having 1-7 carbon atoms;

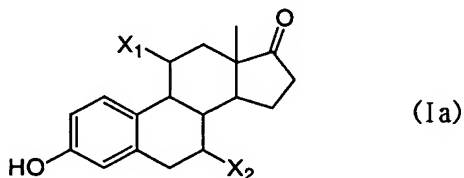
Ra represents a hydroxyl group and Rb represents a  
10 linear or branched alkynyl group having 2-5 carbon atoms,  
or Ra and Rb, when taken together with the carbon to which  
they are bound, represent a carbonyl group;

m is an integer of 2-14;

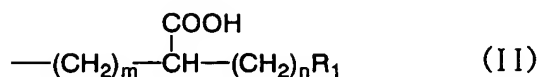
n is an integer of 2-7;

15 provided that X<sub>1</sub> and X<sub>2</sub> are not both a hydrogen atom),  
stereoisomers of the compound, or hydrates, salts or esters  
thereof.

2. A compound of formula (Ia)



(where  $X_1$  and  $X_2$  represent independently a hydrogen atom or a group of formula (II))



5

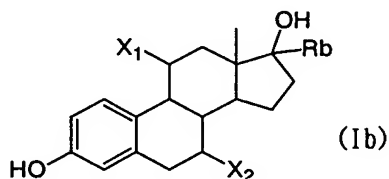
$R_1$  represents a linear or branched halogenoalkyl group having 1-7 carbon atoms;

$m$  is an integer of 2-14;

$n$  is an integer of 2-7;

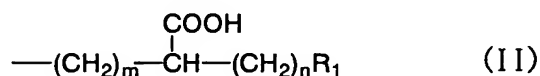
10 provided that  $X_1$  and  $X_2$  are not both a hydrogen atom), stereoisomers of the compound, or hydrates, salts or esters thereof.

3. A compound of formula (Ib)



15

(where  $X_1$  and  $X_2$  represent independently a hydrogen atom or a group of formula (II))



20

$R_1$  represents a linear or branched halogenoalkyl group having 1-7 carbon atoms;

$R_b$  represents a linear or branched alkynyl group

having 2-5 carbon atoms;

m is an integer of 2-14;

n is an integer of 2-7;

provided that  $X_1$  and  $X_2$  are not both a hydrogen atom),

5 stereoisomers of the compound, or hydrates, salts or esters thereof.

4. The compound, stereoisomers of the compound, or hydrates, salts or esters thereof according to any one of claims 1-3, wherein m is an integer of 4-10 and n is an  
10 integer of 2-6.

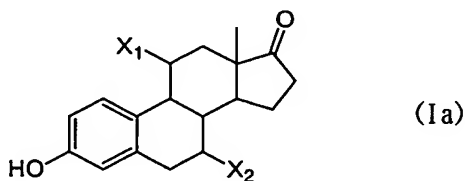
5. The compound, stereoisomers of the compound, or hydrates, salts or esters thereof according to any one of claims 1-3, wherein m is 8 and n is 3.

6. A pharmaceutical composition comprising the compound, stereoisomers of the compound, or hydrates, salts or esters  
15 thereof according to any one of claims 1-3 as an active ingredient.

7. The pharmaceutical composition according to claim 6 which is used to prevent or treat osteoporosis.

20 8. The pharmaceutical composition according to claim 6 which is used to prevent or treat breast cancer.

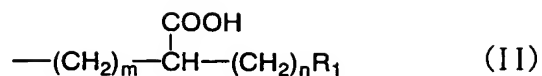
9. A process for producing a compound of formula (Ia)



25

(where  $X_1$  and  $X_2$  represent independently a hydrogen atom or

a group of formula (II)



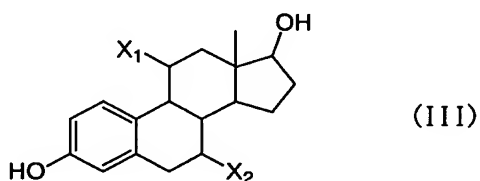
5             $\text{R}_1$  represents a linear or branched halogenoalkyl group having 1-7 carbon atoms;

$m$  is an integer of 2-14;

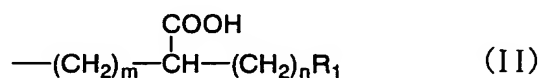
$n$  is an integer of 2-7;

provided that  $\text{X}_1$  and  $\text{X}_2$  are not both a hydrogen atom),

10    stereoisomers of the compound, or hydrates, salts or esters thereof, said process including the step of oxidizing a compound of formula (III)



(where  $\text{X}_1$  and  $\text{X}_2$  represent independently a hydrogen atom or  
15    a group of formula (II)



$\text{R}_1$  represents a linear or branched halogenoalkyl group having 1-7 carbon atoms;

$m$  is an integer of 2-14;

20             $n$  is an integer of 2-7;

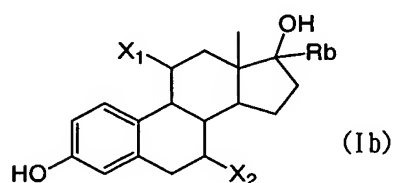
provided that  $\text{X}_1$  and  $\text{X}_2$  are not both a hydrogen atom),

stereoisomers of the compound, or hydrates, salts or esters

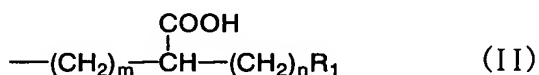
thereof.

10. The process according to claim 9, in which the oxidation reaction is performed by Oppenauer oxidation.

11. A process for producing a compound of formula (Ib)



(where  $X_1$  and  $X_2$  represent independently a hydrogen atom or a group of formula (II))



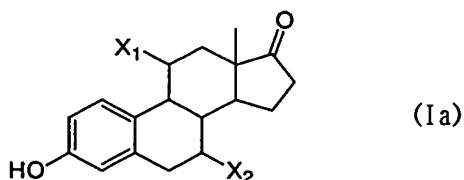
$R_1$  represents a linear or branched halogenoalkyl group having 1-7 carbon atoms;

$R_b$  represents a linear or branched alkynyl group having 2-5 carbon atoms;

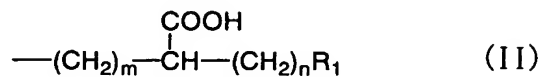
$m$  is an integer of 2-14;

$n$  is an integer of 2-7;

15 provided that  $X_1$  and  $X_2$  are not both a hydrogen atom), stereoisomers of the compound, or hydrates, salts or esters thereof, said process including the step of alkynylating a compound of formula (Ia)



(where  $X_1$  and  $X_2$  represent independently a hydrogen atom or a group of formula (II))



$R_1$  represents a linear or branched halogenoalkyl  
5 group having 1-7 carbon atoms;

$m$  is an integer of 2-14;

$n$  is an integer of 2-7;

provided that  $X_1$  and  $X_2$  are not both a hydrogen atom),  
stereoisomers of the compound, or hydrates, salts or esters  
10 thereof.